

for display on said image reproduction device to be independently controlled by said remote control device.

34. (Once Amended) An arrangement according to claim 33, wherein said [means comprises] arrangement further includes a plurality of image memories and wherein said control [program] means [for defining] defines a plurality of sections of the image reproduction device and [for associating] associates the image data in the memories [devices] with respective ones of the sections in accordance with control signals generated by said remote control device.

35. (Once Amended) An arrangement according to claim 34, wherein the image reproduction device includes a television display having a two-dimensional array of pixels, and wherein said control means [comprises means for defining] defines sections of the image reproduction device in terms of said pixel array, and [means for mapping] maps pixels of the image data in the respective memories [devices] to the respective sections of said pixel array.

Remarks

Claims 1-16 and 18 stand rejected under 35 U.S.C. §101, and the specification as it relates thereto, basically under the printed matter exception, while claims 1-27, 29, and 31-36 are seen as unpatentable under 35 U.S.C. §103 over Pfeiffer et al in view of Baumeister et al. Claims 1-16 and 18 are further rejected over well-known techniques of computer storage. With the cancellation of claims 1-18 and 36, claims 19-35, and 37-53 remain in the case. The amendments to claims 33-35 also address the rejection in paragraph 1 of the Office Action regarding 35 U.S.C. §112.

I. The §101 rejection, as applied to claims 1-16, and 18.

At the outset, Applicants observe that the Examiner has produced neither statutory basis nor case law support for a "new exception" to computer programs per se, falling by analogy under the printed matter exception. The problem, as understood by the Examiner, is that computer programs are typically wrapped up with physical structure, i.e., the computer, or parts thereof (memories, controllers, etc.). This relationship invariably shows up in the claims.

The argument is made that this physical structure is only in the preamble, and the preamble is to be ignored in determining statutory subject matter. Without conceding that point, Applicants note that the body of the original claim 1, for example, includes "a plurality of image memories". This is hardly "printed matter". The "program means" is involved in "reading selected image data files" (how does "printed matter" read files?) and "storing the image data in... the image memories" (how does "printed matter" store data in memories?). We respectfully believe that, in this case, the analogy to "printed matter" must fail, and therefore that this "exception", insofar as it has any validity at all, cannot apply to claims 1-16, and 18.

Notwithstanding the prior reservations, we have cancelled claims 1-18 in order to introduce new claims 37-53, which represent an effort to recast the now-cancelled claims into new language that more clearly claims the invention in terms of physical structure. These claims will be described in terms of independent claims 37 and 47, with the understanding that their dependent claims should survive scrutiny

under §101 if the parents define statutory subject matter.

As presently drafted, claims 37 and 47 pertain to computer-implemented apparatus embodied in an interrelated combination of physical elements: a plurality of image memories, user command means for registering user commands, and control means, responsive to user commands, for reading image data files and storing the data files in the image memories.

In claim 37, the control means is responsive to a read command, not only to read the current image data, but also to read image data regarding spatially adjacent image data into respective image memories. In this way, access time to subsequent images is reduced. In claim 47, image data from a plurality of images is read into respective image memories, and allocated to sections of the display device for joint display therewith.

It is clear that there is more involved in both of these claims than the mere labeling of an invention in the preamble as one of the statutory classes. The body of the claim is directed to physical apparatus that happens to be implemented by a computer. Indeed, the control means itself is ordinarily embodied as a computer or comparable type of programmed processor. Clearly, this language--memories, user command means, control means--does not read directly on mere characters on paper.

Consequently, new claims 37-53, insofar as they bear resemblance to old claims 1-18, are believed to define statutory subject matter under 35 U.S.C. 101.

**II. The §112 Rejection, as applied to the specification and claims 1-16, and 18.**

Claims 1-16, and 18, allegedly only recite a computer program. "Applicant has not disclosed how a mere computer program without more, can carry out the functions recited in the means plus function language."

As noted above, new claims 37-53 recite a plurality of image memories, user command means for registering user commands, and control means responsive to user commands for reading and storing image data. This language finds corresponding structure directly in the specification: RAM memories 50-53, IR remote control 200, and the controllers 44 and 46. Insofar as programs are used, they function in relation to such corresponding structure; programs alone are not being claimed. The functions of reading and storing are carried out as described in the specification in relation to such structure.

Consequently, the new claims 37-53 are believed to adequately teach how to make and/or use the invention.

**III. The §103 Rejection based on "well-known technique", as applied to claims 1-16, and 18.**

This rejection is based on official notice that it is well-known to store "program means" on storage media for later use by a computer.

Claims 1-16, and 18, have been cancelled. As set forth above, new claims 37-53 are based on more than mere storage for later use by a computer. Claims 37-46 relate to an arrangement for reading, pursuant to a particular user command, and accessing sequentially adjacent image files in order to better control access time. Claims 47-53 pertain to reading,

pursuant to user commands, plural images into respective memories that are allocated to sections of a screen-divided display.

The official notice taken by the Examiner is insufficient to suggest these features, and thus the new claims are non-obvious on this basis, that is, over the mere storage of programs.

**IV. The §103 rejection, on the cited references.**

The following remarks will deal with the independent claims subject to this rejection.

Amended claim 19 includes the features of defining the screen to contain a plurality of sections, selecting a plurality of image data files, reading image data from the selected files, loading the image data into respective image memories, allocating at least one image memory to at least one section of the screen, and displaying the image data from the allocated memory on the respective screen section.

While Pfeiffer et al discloses plural image memories 82, they are allocated to red, green, and blue image planes, and an overlay plane. Pfeiffer et al does show two images on monitor 28(Fig.1), but is silent as to its implementation. What Pfeiffer et al is not silent about is the use of the plural image memories 82: each image memory plane 84-90 includes a 4k x 4k storage area for collectively storing color data information of an image (col. 11, lines 24-26). In contrast to Applicant's storing of a section of an image, the plural memories 82 store only one whole image. In fact, so many pixels are stored that only a window of pixels are selected for viewing on the display 28, inasmuch as each memory plane exceeds the capacity of the display 28 (see col. 20, lines 3-20).

Consequently, the combination of features of amended claim 19 are not shown, or suggested, in Pfeiffer et al. In particular, Pfeiffer et al does not suggest reading of a plurality of images, storing the resultant data in a plurality of memories, and allocating each memory to respective sections of the screen. Nothing in Baumeister et al would supply, or suggest, the missing elements. Contrary to the Examiner's suggestion, Baumeister et al does not select and store image data files. Baumeister et al describes a still video floppy disk player in which a magnetic disk is selected from a magazine, and then a picture is reproduced from the disk for display on the television 4. There is no storage of the video image, apart from its track on a video disk 1. The disk 1 is simply rotated continuously and the video image is repetitively played back from the disk. Likewise, there is no suggestion for displaying a plurality of video images on sections of the television display-- in part because it would be next to impossible with such an analog system.

Amended claim 33 includes a remote control device for accessing a plurality of images stored in a digital database, and control means responsive to the remote control device for causing a plurality of images to be accessed for display together on an image reproduction device. Individual images in the joint display can be independently controlled by the remote control device.

As heretofore described in connection with claim 19, Pfeiffer et al is silent as to the means for accessing a plurality of images for display together on the display 28. A keyboard and pointing device 38 is shown in Figure 2, but its application to the dual images 12 shown in Figure 1 is not described. A remote controller 6 is shown in Baumeister et al, but its

effect is limited to only one image on the television  
4. There is nothing in Baumeister et al that would motivate one of ordinary skill in this art to apply the remote controller 6 to manipulation of multiple images, as envisioned by the present invention.

New claim 37 includes a plurality of memories for storing digitized image data read from a database, user command means for entering user commands, in particular a command to read and display a selected image file from the database, and control means responsive to the command to read the selected file and store it in one of the image memories. In order to reduce access time for obtaining the next image, the control means also reads at least one more image file that is sequentially adjacent to the selected file, and stores it in another of the image memories. In this way, as also set forth in claim 39, access time to display the next image is substantially reduced.

Nothing like this is shown in Pfeiffer et al, which has no facility for storing additional images other than the RGB and overlay planes of the present image. Baumeister et al does not even store images.

New claim 47 generally is the apparatus counterpart to amended claim 19, and the same arguments for patentability apply.

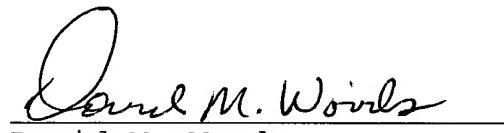
In view of the foregoing comments regarding independent claims 19, 33, 37, and 47, the claims depending therefrom should likewise be allowable.

**V. Art of record, but not relied upon.**

The Hayashi et al, Inda, and IBM disclosures have been considered, but are not seen to affect the allowability of the remaining claims.

In view of the foregoing remarks, all of the claims remaining in the case are believed to be allowable over Pfeiffer et al in view of Baumeister et al under 35 U.S.C. §103, as well as over official notice concerning computer storage.. In addition, all of the claims are believed to describe statutory subject matter under 35 U.S.C. §101, and to meet the requirements of 35 U.S.C. §112.

Respectfully submitted,

  
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